



Detection, Prevention, and Treatment of Chronic Kidney Disease



As recently as 10 years ago, there were no effective treatments for chronic kidney disease (CKD). Today, there are several renoprotective measures that can be combined to help slow and, in some cases, prevent kidney failure. These include: glycemic control, blood pressure control, low protein diets, and ACE inhibitors and ARBs.

Despite advances in testing and treatment, kidney failure remains a growing epidemic in the United States. At the end of 2003, more than 450,000 Americans were on dialysis or had a kidney transplant.¹ That number is projected to exceed two million by 2030.² About 20 million Americans have CKD¹, and an estimated 20 million more are at high risk.

African Americans are disproportionately affected by the leading CKD risk factors—hypertension and diabetes—and thus by kidney failure.

- African Americans are nearly four times more likely than Caucasians to develop kidney failure.¹
- African Americans make up about 12 percent of the U.S. population, but account for nearly one-third (32%) of people with kidney failure.¹
- African-American men ages 20 to 29 are 10 times more likely to develop kidney failure due to high blood pressure than Caucasian men in the same age group. African-American men ages 30 to 39 are about 14 times more likely to develop kidney failure due to high blood pressure than Caucasian men in the same age group.¹

This fact sheet, based on the National Kidney Disease Education Program's CKD Quick Reference Card, outlines recommended tests and testing intervals for patients at high risk of CKD—those with high blood pressure, diabetes, or a family history of kidney disease. It also provides clinical targets for these patients. This information is intended to assist health care professionals in detecting and treating chronic kidney disease, and delaying or preventing kidney failure.

Chronic Kidney Disease is:

- The persistent and usually progressive reduction in glomerular filtration rate (GFR less than 60 mL/min/1.73 m²), and/or
- Albuminuria (more than 30 mg of urinary albumin per gram of urinary creatinine).

Testing is Needed to Detect Early CKD

Test adults with:

- **Diabetes** once per year.
- **Hypertension** at diagnosis and initiation of therapy—then, if tests are normal, every 3 years.*
- **A family history of kidney disease** every 3 years as long as the tests remain normal.*

**This testing interval is opinion based. Use your discretion.*



Detection, Prevention, and Treatment of Chronic Kidney Disease *(continued)*



Use these independent tests to detect CKD:

- Serum creatinine applied to a prediction equation (NKDEP recommends the MDRD study equation for adults) to estimate GFR is preferable to a 24-hour urine collection.
- A spot urine albumin to urine creatinine ratio is preferable to a 24-hour urine collection for albumin excretion.
- Get blood pressure checked.

Use or download the GFR Calculator at www.nkdep.nih.gov. You will need to fill in the values below:

Plasma or serum creatinine (mg/dL)	
Age	
African American	<input type="checkbox"/> Yes <input type="checkbox"/> No
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female

Prevention & Treatment

Early treatment of CKD can slow progression and reduce cardiovascular risk. Prevention of kidney failure is possible.

For patients with a family history of CKD:

- Advise patients to take action to prevent hypertension and diabetes, including:
 - Maintaining a healthy weight
 - Being physically active on a regular basis
 - Following a healthy eating plan
 - Reducing salt and sodium in the diet
 - Drinking alcohol only in moderation
 - Quitting smoking
 - Taking prescribed medication as directed

For patients with diabetes or hypertension and CKD:

- Prescribe angiotensin converting enzyme inhibitor or angiotensin receptor blocker to protect kidney function.
- A diuretic should usually be part of the hypertension regimen.
- Keep blood pressure below 130/80 mmHg.



Detection, Prevention, and Treatment of Chronic Kidney Disease *(continued)*



It is also important to:

- Provide referral for dietary counseling. (Medicare will pay for nutrition counseling for CKD.)
- Advise tight glycemic control for patients with diabetes.
- Monitor and treat traditional cardiovascular risk factors, particularly smoking and hypercholesterolemia.
- Refer patients to a nephrologist for an early opinion.
- Provide ongoing primary care.
- Team with a nephrologist once the GFR is 30 mL/min/1.72 m² or less.

To order a laminated copy of NKDEP's CKD Quick Reference Card (NIH Publication No. 04-5350) or other NKDEP materials for your practice, call 1-866-4 KIDNEY (1-866-454-3639) or visit the NKDEP website at www.nkdep.nih.gov.

National Medical Association (NMA), the nation's largest association of African-American physicians, promotes the collective interests of physicians and patients of African descent. For more information about NMA, please visit the website at www.nmanet.org.

NKDEP is an initiative of the National Institutes of Health, U.S. Department of Health and Human Services. For more information about kidney disease, visit www.nkdep.nih.gov or call 1-866-4 KIDNEY.

-
- 1 U.S. Renal Data System (2005). National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD.
 - 2 Projecting the U.S. ESRD Population to 2030 (2003), David Gilbertson PhD, Craig Solid MS, Jay L Xue DVM PhD, Allan J Collins MD, United States Renal Data System, Minneapolis Medical Research Foundation, University of Minnesota Twin Cities.